

Short- and long-term incidence of obsessive–compulsive disorder after objectively recorded potentially traumatic events

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1 SUPPLEMENTARY MATERIAL

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3 Supplementary Table 1: Number of observations included in the coaggregation analysis and unique pairs in the quantitative genetic 4 modelling.

Total cohort and family clusters	Unique probands	Unique pairs ^a	Observations ^b	No. of unique pairs (one per family)	Phenotypic correlation	ICC for OCD	ICC for as-sault/victimiza-tion	CTCS correla-tion for OCD and assault/victimiza-tion
Total cohort	3,340,945	NA	3,340,945	na	0.12 (0.12-0.13)	na	na	na
Full siblings	2,472,093	1,875,811	3,751,622	1,055,014	0.11 (0.10-0.12)	0.23 (0.22-0.25)	0.25 (0.24-0.26)	0.05 (0.04-0.06)
Maternal half siblings	436,429	334,834	669,668	150,052	0.10 (0.08-0.12)	0.11 (0.06-0.15)	0.11 (0.09-0.13)	0.00 (-0.03-0.02)
Paternal half siblings	457,491	370,303	740,606	148,444	0.11 (0.09-0.13)	0.08 (0.03-0.13)	0.10 (0.08-0.12)	0.01 (-0.01-0.04)
Cousins	2,598,985	6,779,739	13,559,478	783,385	0.12 (0.10-0.13)	0.04 (0.01-0.07)	0.09 (0.08-0.10)	0.02 (0.01-0.03)

5 **Note:** In all pairs of siblings and cousins, each individual contributed to the coaggregation analysis, at least once, with information on exposure and on outcome.

6 ^aNumber of the unique pairs identified (e.g., Sibling1–Sibling2).

7 ^bNumber of observations included in the analysis (i.e., all possible combinations of pairs in which members contribute to the analysis with information on exposure and outcome).

8 **Abbreviations:** CTCS, cross-trait cross-sibling; ICC intraclass correlation; na, not applicable; OCD, obsessive–compulsive disorder

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12 **Supplementary Table 2: Quantitative genetic modelling. Genetic and environmental parameter estimates for familial co-aggregation of**
13 **assault/victimization and obsessive-compulsive disorder**

Parameters	Models ^a			14
	ACE	AE ^b	CE	
<i>Model fitting^c</i>				
No. of parameters	21	18	18	
AIC	808.12	807.01	1200.16	
p-value	na	0.98	<0.01	
<i>OCD, (95% CI)</i>				
OCD due to A	0.38 (0.24 - 0.51)	0.46 (0.41 - 0.51)	na	
OCD due to C	0.04 (-0.02 - 0.11)	na	0.22 (0.20 - 0.24)	
OCD due to E	0.58 (0.50 - 0.66)	0.54 (0.49 - 0.59)	0.78 (0.76 - 0.80)	
<i>Assault/victimization, (95% CI)</i>				
Assault/victimization due to A	0.47 (0.41 - 0.53)	0.47 (0.44 - 0.50)	na	
Assault/victimization due to C	0.00 (-0.03 - 0.03)	na	0.21 (0.20 - 0.22)	
Assault/victimization due to E	0.53 (0.49 - 0.57)	0.53 (0.50 - 0.56)	0.79 (0.78 - 0.80)	
<i>Bivariate explained covariance, (95% CI)</i>				
Covariance due to A	0.84 (0.23 - 1.44)	0.69 (0.42 - 0.97)	na	
Covariance due to C	-0.07 (-0.35 - 0.20)	na	0.30 (0.17 - 0.43)	
Covariance due to E	0.24 (-0.15 - 0.62)	0.31 (0.03 - 0.58)	0.70 (0.57 - 0.83)	
<i>Bivariate correlations, (95% CI)</i>				
rA	0.23 (0.06 - 0.41)	0.17 (0.11 - 0.24)	na	
rC	-1.00 (-9.76 - 7.77)	na	0.16 (0.09 - 0.23)	
rE	0.05 (-0.03 - 0.13)	0.07 (0.00 - 0.13)	0.10 (0.08 - 0.13)	

15 **Note:** The comparison of the full model (ACE model) with the reduced submodels AE, and CE was performed by using a weighted least squares approach with the 95% confidence intervals (CI)
16 based on standard errors (Wald CI). Therefore, the 95% CIs might fall above 1 or below -1 for correlations, and below 0 for variance components.

17 ^a Adjustments were made for the sex of both the proband and the relative, and for their birth year, with the latter modeled using linear and quadratic terms.

18 ^b Best fitting model – AE – includes additive genetic and non-shared environment parameters (i.e., without a significant decrease in a fit after dropping shared environmental parameter from the
19 full ACE model).

20 ^c Model fitting assumptions were: (i) additive genetic factors correlate at 0.50 for full siblings, at 0.25 for half siblings, and at 0.125 for cousins; (ii) shared environmental factors correlate at 1 for
21 full siblings and maternal half siblings and at 0 for paternal half siblings and cousins, and (iii) non-shared environmental factors do not to correlate between siblings or cousins.

22 **Abbreviations:** AIC, Akaike information criterion; p-value, for the loss of fit for the reduced models; A, additive genetic parameter; C, shared environmental parameter; E, non-shared environ-
23 mental parameter (including measurement errors); OCD, obsessive-compulsive disorder; rA, additive genetic correlation; rC, shared environmental correlation; rE, non-shared environmental
24 correlation; na, not applicable.

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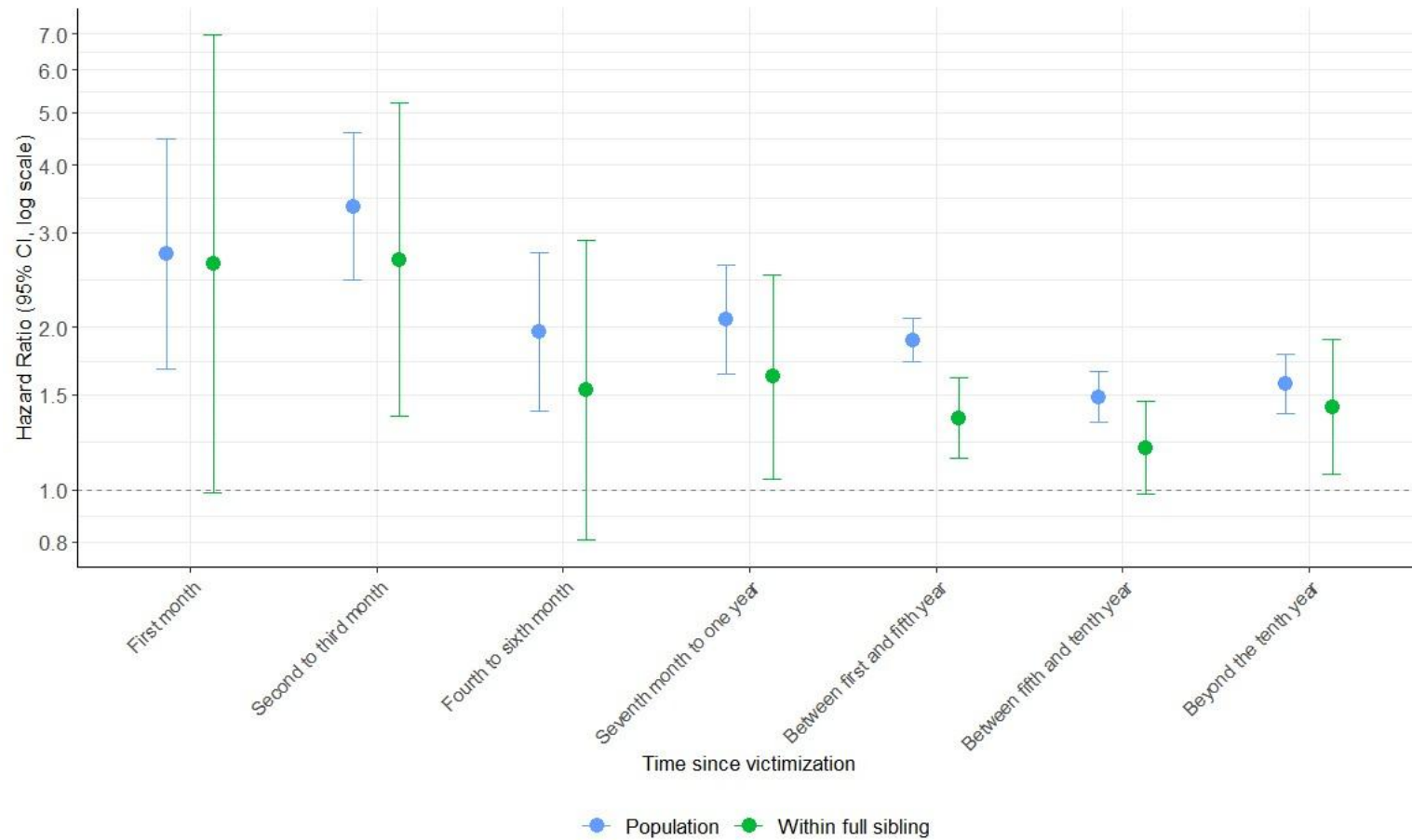
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47 **Supplementary Table 3: Swedish International Classification of Diseases 8th (ICD-8), 9th (ICD-9), and 10th (ICD-10) revision diagnostic**
 48 **codes for potentially traumatic events included in the study.**

Exposures	Swedish ICD-8	Swedish ICD-9	Swedish ICD-10
Assault/victimization	E96	E96	X85, X86, X87, X88, X89, X9, Y0
Transport accidents	E80, E81, E82, E83, E84	E80, E81, E82, E83, E84	V

73 **Supplementary Figure 1: Risk of obsessive-compulsive disorder across different follow-up intervals after the victimization event**



87 **Note:** HRs and 95% confidence intervals were estimated using Cox regression models. Color indicates type of comparison: population (blue) and within full sibling (green). The cohort included
88 3,340,945 individuals for the population comparison, of which 2,452,871 had a full sibling included in the sibling comparison. Models were adjusted for birth year (categorized in 6-year incre-
89 ments) and sex.

90 **Abbreviations:** CI, confidence intervals